

MEUTERMANS et al  
Appl. No. 10/530,851  
June 16, 2010

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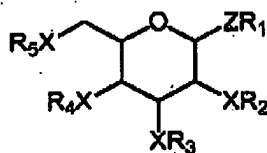
**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.-42 (Cancelled).

43. (New) A method of identifying a candidate therapeutic agent comprising:

i) contacting a membrane comprising a G-Protein Coupled Receptor (GPCR) with a compound of general formula 1, or a pharmaceutically acceptable salt thereof



General Formula I

wherein the ring may be of any configuration;

Z is selected from the group consisting of: sulphur, oxygen, and NR<sup>A</sup> wherein R<sup>A</sup> is selected from the set defined for R<sub>1</sub> to R<sub>5</sub> or C1 to C15 acyl, C4 to C15 arylacyl or C4 to C15 heteroarylacyl, with the proviso that both R<sub>1</sub> and R<sup>A</sup> are not hydrogen,

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X is selected from the group consisting of: oxygen and  $\text{NR}^A$  providing that: i) X of  $\text{XR}_2$  is  $\text{NR}^A$ , ii) X of  $\text{XR}_3$  is oxygen and  $\text{R}_3$  is not hydrogen, iii) X of  $\text{R}_4$  is oxygen or  $\text{NR}^A$ , and X of  $\text{XR}_5$  is oxygen, wherein at least one of  $\text{OR}_4$  and  $\text{OR}_5$  is OH,

$\text{R}_1$  to  $\text{R}_5$  are independently selected from the group consisting of: H, C1 to C12 alkyl, C1 to C12 alkenyl, C1 to C12 alkynyl, C1 to C12 heteroalkyl, C4 to C15 aryl, C4 to C15 heteroaryl, C4 to C15 arylalkyl and C4 to C15 heteroarylalkyl substituent,

wherein, when X is  $\text{NR}^A$ , both  $\text{R}^A$  and the corresponding  $\text{R}_2$  or  $\text{R}_4$  is not hydrogen, and

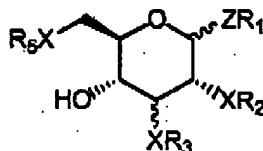
ii) determining whether said compound inhibits or effects signal transduction activity of said GPCR,

wherein a compound that inhibits or effects said activity of said GPCR is a candidate therapeutic agent.

44. (New) The method of claim 43, wherein any one of  $\text{R}^A$  or  $\text{R}_1$  to  $\text{R}_5$  is substituted with a moiety selected from the group consisting of: -OH, -NO, -NO<sub>2</sub>, -NH<sub>2</sub>, -N<sub>3</sub>, halogen, -CF<sub>3</sub>, -CHF<sub>2</sub>, -CH<sub>2</sub>F, -C≡N, alkoxy, aryloxy, -C(=NH)NH<sub>2</sub>, -NH-C(=NH)-NH<sub>2</sub>, -COOH, -COOR, -C(=O)NHR, aryl, cycloalkyl, heteroalkyl, heteroaryl, aminoalkyl, aminodialkyl, aminotrialkyl, aminoacyl, carbonyl, substituted or unsubstituted imine, -SO<sub>3</sub>H, -OSO<sub>2</sub>NH<sub>2</sub>, -OPO<sub>3</sub>H, -OPO<sub>2</sub>NH<sub>2</sub>, -NH-NH<sub>2</sub>, -NR-OR, -NH-OH, heteroaryloxy, aminoaryl, aminoheteroaryl, thioalkyl, thioaryl and thioheteroaryl.

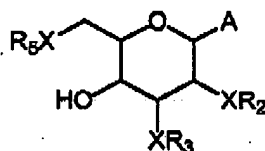
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45. (New) The method of claim 43, wherein the compound is



General Formula II.

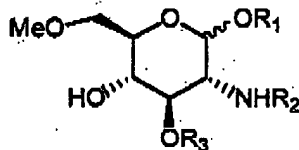
46. (New) The method of claim 43, wherein the compound is



General Formula III

wherein A is selected from the group consisting of:  $N(R^A)R_1$ ,  $SR_1$ , or  $OR_1$ .

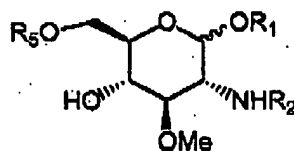
47. (New) The method of claim 43, wherein the compound is



General Formula IV.

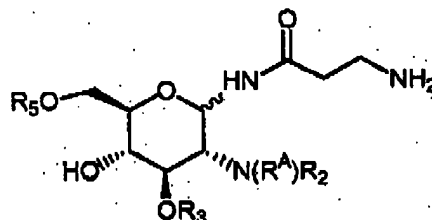
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48. (New) The method of claim 43, wherein the compound is



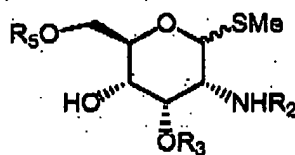
General Formula V.

49. (New) The method of claim 43, wherein the compound is



General Formula VI.

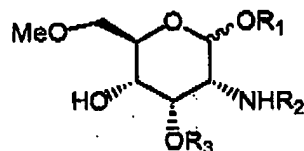
50. (New) The method of claim 43, wherein the compound is



General Formula VII.

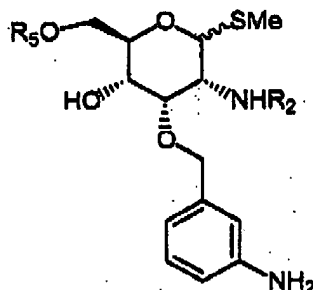
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51. (New) The method of claim 43, wherein the compound is



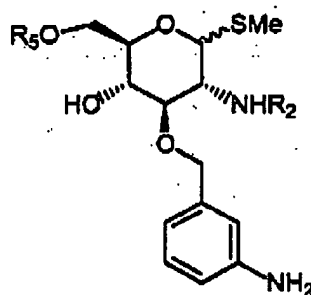
General Formula VIII.

52. (New) The method of claim 43, wherein the compound is



General Formula IX.

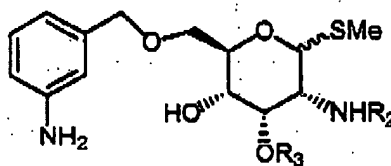
53. (New) The method of claim 43, wherein the compound is



General Formula X.

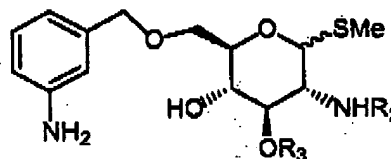
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54. (New) The method of claim 43, wherein the compound is



General Formula XI.

55. (New) The method of claim 43, wherein the compound is



General Formula XII.

56. (New) The method of claim 43, wherein the receptor is a somatostatin receptor.
57. (New) The method of claim 43, wherein the receptor is a melanocortin receptor.
58. (New) The method of claim 43, wherein said membrane is *in vitro*.
59. (New) The method of claim 43 wherein said membrane is *ex vivo*.

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60. (New) The method according to claim 43 wherein said candidate therapeutic agent is a candidate anti-inflammatory agent.

61. (New) The method according to claim 43 wherein a compound that inhibits or effects said activity of said GPCR is a candidate therapeutic agent for use in treating pain, cancer, metabolic or gastrointestinal disorders, cardiovascular disorders, central nervous system disorders, obesity or erectile dysfunction.